4130 R. 750"

Work Order ID 112730

112730

February-06-14 10:46:39 AM

Item ID: D3059-1 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Stud

Start Date: 2/06/14 **Start Qty:** 20.00 *20* **Cust Item ID:**

Required Date: 2/20/14 **Req'd Qty:** 20.00 *20* **Customer:**

Reference:

Approvals: **Process Plan:** MLS **Date:** 14-02-06 **Tooling:** **Date:** **Run Start** *NR1*

QC: **Date:** **SPC (Y/N):** **Date:** **Stop** *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	**Revision Nbr**								
D3059	Rev A1								
100		0.00							
100	BAND SAW								
Hardinge	**Memo**	0.00							
Hardinge CNC Lathe Small	Turn blank as per Folio FA400 and Dwg D3059Cut groove as per Folio FA400 and Dwg D3059Identify as D3059-1Deburr and ~~Tumble for a short time to~~ prevent ~~damage to~~ threads								
110	QC2- Inspect parts off machine FAI/FAIB	0.00							
110									
QC	**Memo**	0.00							
Quality Control									

DAS 02 S-89 14-02-11 x22

N/A

DAS 02 S-89 14-02-11

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework	☐
Scrap	☐
Use-as-is	☐
Suspected Unapproved	☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐
Machining ☐	Small Fab ☐	Prod. Eng. Coor. ☐	Quality ☐
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐
Large Fab ☐	Composite ☐	Supplier ☐	

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric
- ☐ Cracks
- ☐ Crimp/Kink/Ripple/Wave
- ☐ Cuffs
- ☐ Crushing
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Marks/Chatter
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damage/Defect
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drawing
- ☐ Drill Holes
- ☐ Finish
- ☐ Fit/Function
- ☐ Folio/Program
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete/Unqualified
- ☐ Instructions Incomplete/Unclear
- ☐ Misaligned/off center
- ☐ Mislabeled
- ☐ Misread
- ☐ Off-set
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Set-up
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

Work Order ID 112730

112730

February-06-14 10:46:39 AM

Item ID: D3059-1 **Accept** *N9000040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Stud

Start Date: 2/06/14 **Start Qty:** 20.00 *20*

Required Date: 2/20/14 **Req'd Qty:** 20.00 *20*

Reference:

Cust Item ID:

Customer:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
111		0.00							
111						22	0		14-02-22
HAAS 1	**Memo**	0.00							
HAAS CNC vertical machine #1	mill slot as per dwg and folio folio re:_____ DWG REV: A DEBURR								
112	QC2- Inspect parts off machine FAI/FAIB	0.00							
112						22	0		14-02-22
QC	**Memo**	0.00							
Quality Control									
120	QC8- Inspect parts - second check	0.00							
120						22	0		14-02-24
QC	**Memo**	0.00							
Quality Control									

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

DART AEROSPACE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐ ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

☐ Bending
☐ Centre Not Concentric
☐ Cracks
☐ Crimp/Kink/Ripple/Wave
☐ Cuffs
☐ Crushing
☐ Heat Treat
☐ Inspection Strip in Tube
☐ Marks/Chatter
☐ Turning Sequence
☐ Wave/Twist in Tube

General

☐ Bend
☐ BOM/Route
☐ Broken/Damage/Defect
☐ Burrs
☐ Contamination
☐ Countersink
☐ Cut Too Short
☐ Drawing
☐ Drill Holes
☐ Finish
☐ Fit/Function
☐ Folio/Program
☐ Grain
☐ Hardware
☐ Inspection Incomplete/Unqualified
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☐ Out of Calibration
☐ Out of Sequence
☐ Outside Dimensions
☐ Over/Under tolerance
☐ Part Incorrect
☐ Part Lost/Missing
☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge
☐ Pressure/Forced
☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled
☐ Other

Work Order ID 112730

February-06-14 10:46:39 AM

112730

Item ID: D3059-1 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Stud

Start Date: 2/06/14 **Start Qty:** 20.00 *20*

Required Date: 2/20/14 **Req'd Qty:** 20.00 *20*

Reference:

Cust Item ID:

Customer:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130		0.00							
130	PURCHASING								
Purchasing	**Memo**	0.00							
Purchasing	Issue P/O: 23197 Finish: Cadmium plate per QQ-P-416F Class 1, Type IIMaterial release note is required.								
140	Receive & Inspect for Damage & Mat'l Certs	0.00							
140									
Packaging	**Memo**	0.00							
Packaging	Ensure Material Release Note is attachedIdentify and StockLocation:								
150	QC21- Final Inspection - Work Order Release	0.00							
150									
QC	**Memo**	0.00							
Quality Control									

CZ 14/03/03 22

22x SP 14-3-26.

DAS 27 9-89

QC6 → 14/3/26

02

14-03-27

identify STO24

DAS 26 9-89

22x 14-03-26

MR 14-3-27

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

DART AEROSPACE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

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☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge
☐ Pressure/Forced
☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled
☐ Other

Picklist Print

February-06-14 10:46:45 AM

Work Order ID: 112730

112730

Parent Item: D3059-1

D3059-1

Parent Item Name: Stud

Start Date: 2/06/14 **Required Date:** 2/20/14

Start Qty: 20.00 **Required Qty:** 20.00

Comments: IPP A04.03.25New issueKJ/RF

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M4130NR0.750		Purchased	No			100	f	31.5000	0.1666	4			

M4130NR0.750

4130 steel RD bar .750"

**

RT 14.02-11

Location	Loc Qty	Loc Code
MAT031	31.5	
111823	2	
123772	10	.85
m127753	19.5	3.15

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

DART AEROSPACE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework	☐
Scrap	☐
Use-as-is	☐
Suspected Unapproved	☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐
Machining ☐	Small Fab ☐	Prod. Eng. Coor. ☐	Quality ☐
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐
Large Fab ☐	Composite ☐	Supplier ☐	☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

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- ☐ Pressure/Forced
- ☐ Set-up
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

DART AEROSPACE LTD	Work Order:	112730
Description: Stud	Part Number:	D3059-1
Inspection Dwg: D3059 **Rev:** A1		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

[X] First Article [] Prototype

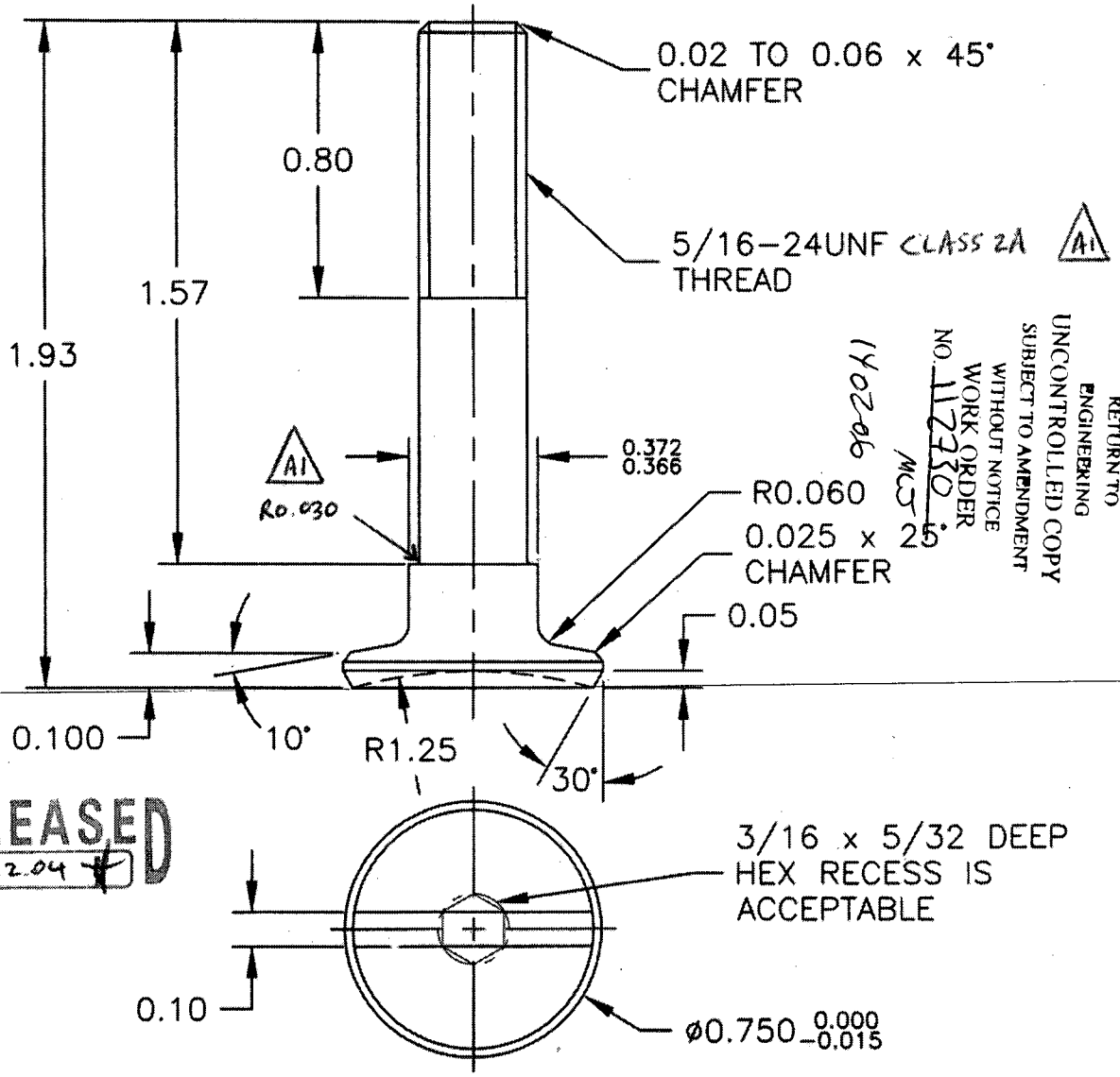
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
1.93	+/-0.030	1.928	✓		vern	RT -4
1.57	+/-0.030	1.568	✓			
0.100	+/-0.010	0.107	✓			
0.80	+/-0.030	0.798	✓			
0.372 - 0.366	N/A	0.369	✓		mic	RT -1
0.10	+/-0.030	.096	✓		SLOB	Vern
Ø0.750	+0.000/-0.015	0.745	✓			
R0.060	+/-0.030	0.060	✓			
5/16-24UNF	N/A					
R0.030	+/-0.010	0.030	✓			
.3315 - .3352		.3333	✓			
.05	+/- .030	.047	✓		SLOB	Vern

Measured by:	RT	Audited by:		Prototype Approval:	N/A
Date:	14-02-11	Date:	14-2/11 14-2-23	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	04.03.25	New Issue	KJ/RF	
B	06.03.09	Dwg Rev updated; R0.030 added	KJ/JLM	

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3059	REV. A SHEET 1 OF 1
DATE 01.11.27		TITLE STUD	SCALE 2:1
A	01.11.27	NEW ISSUE	
A1	04.04.01	ADD R0.030 & CLASS 2A	

SPECIFICATION CONTROL DRAWING



SHOP COPY
RETURN TO ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT WITHOUT NOTICE
WORK ORDER NO. 112230
19 02 06

RELEASED
01.12.04

D3059-1:

1) POSSIBLE SUPPLIER: ANCRA INTERNATIONAL P/N 40110-10
2) MATERIAL: AISI 4130N BAR PER MIL-S-6758 OR AMS 6348/6370/6528
 MIN TENSILE STRENGTH 180 KSI
3) THREADS PER MIL-S-7742
4) FINISH: CADMIUM PLATE PER QQ-P-416F CLASS 1, TYPE II
5) ALL DIMENSIONS ARE IN INCHES.
6) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.

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Packing Slip

Sold To:
Dart Aerospace Ltd.
1270 Aberdeen St.

Hawksbury, ON K6A 1K7

ShipTo:

Cadorath Coating

2150 Logan Avenue, Winnipeg, Manitoba R2R-0J2
Phone: (204) 633-9420 **Fax:** (204) 633-8033

INVOICE NUMBER:
S 70263

Net 2% Interest Per Month charged on Overdue Accounts.
Any claims for shortages, overcharges, or damaged goods must be made within seven (7) days from receipt of goods.

Customer Order #:	DateReceived:	Terms:	G.S.T. #:	Ship Via:	Ship Date:
PO23197	Mar-13-2014	NET 30 DAYS	10071 6547 RT0001		Mar-25-2014

Item #	Qty	P/N & Description		
1	22 EA	STUD	S/N	
	P/N	D3059-1	W/O 133592	SP 14-3-24

CERTIFICATE OF CONFORMANCE

CADORATH PLATING CO. LTD.
2150 LOGAN AVENUE
WINNIPEG, MANITOBA R2J-0J1

DATE: Mar-25-2014

CONSIGNED TO: Dart Aerospace Ltd.
1270 Aberdeen St.
Hawksbury, ON K6A 1K7

W/O #: 133592
INVOICE #: 70263

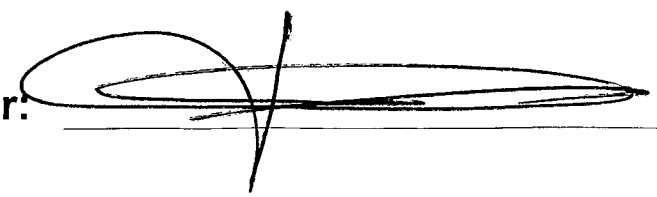
CONTRACT OR PURCHASE ORDER # PO23197

DESCRIPTION: STUD **QTY** 22

P/N # D3059-1 **S/N #**

CADMIUM PLATING IAW AMS-QQ-P-416C TYPE 2 YELLOW CLASS 1.
BAKE HEAT CHART # 14-276.

CERTIFICATE: I certify that the items indicated here on have been inspected and tested and conform to all specifications and requirements detailed on the contract or purchase order.

Approved Inspector: 



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO23197

Purchase Order Date 3/3/2014
PO Print Date 3/3/2014

Order From : VC-CAD002

CADORATH COATING
2150 LOGAN AVE.
WINNIPEG, MB R2R 0J2
CA

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name		**Buyer**	Chantal Lavoie
Vendor Phone	204 633 9420	**Customer POID**	
		Customer Tax #	10127-2607
Ship To Contact		**Terms**	Net 30
Ship To Phone		**Currency**	CAD
Ship Via:	FedEx PI collect	**FOB**	Destination-Collect
Ship Acct:			

FAXED 14/03/03

Line Nbr	Reference / Vendor Part Number / Line Comments / Delivery Comments	Description/ Mfg ID	Req Date/ Taxable / Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extend Pri
1	112730	D3059-1 STUD	3/18/2014 No 3/18/2014		22.00	$10.50	$231.
	FINISH: CADIUM PLATE PER QQ-P-416F CLASS 1, TYPE II					**Line Total:**	**$231.**
2	71401-45	PROCUREMENT QUALITY CLAUSES	3/18/2014 No 3/18/2014		1.00	$0.00	$0.

Procurement Quality Clauses
A005 right of entry
A012 chemical and physical test report
A021 dart aerospace processing
A024 process certifications
A026 certification of material conformance
A043 retention of quality documents

SQ14-3-26.

Note: